

Title (en)

INPUT METHOD WITH HAPTIC FEEDBACK AND REVERBERATION SUPPRESSION, AND ASSOCIATED INPUT DEVICE

Title (de)

EINGABEVERFAHREN MIT HAPTISCHEM FEEDBACK UND NACHSCHWINGUNTERDRÜCKUNG SOWIE ZUGEHÖRIGE EINGABEVORRICHTUNG

Title (fr)

PROCÉDÉ D'ENTRÉE AVEC RÉTROACTION HAPTIQUE ET SUPPRESSION DE RÉVERBÉRATION, ET DISPOSITIF D'ENTRÉE ASSOCIÉ

Publication

EP 4309027 A1 20240124 (DE)

Application

EP 23717935 A 20230411

Priority

- DE 102022108877 A 20220412
- EP 2023059408 W 20230411

Abstract (en)

[origin: WO2023198688A1] The invention relates to an input device (1) for detecting a manual input with haptic feedback, said input device comprising: an actuating element (2) which is mounted so as to vibrate about a rest position in a vibration direction (b) and has an eigenmode having a first natural frequency (f1); an electrodynamic or piezoelectric actuator (4) for acting on the actuating element (2) in a vibration-inducing manner in the vibration direction (b), which actuator has an exciter mass (5) which is mounted so as to vibrate freely and can be driven by an electric excitation signal (S(t)), and an actuator eigenmode having a second natural frequency (f2); detection means (6, 8) for detecting at least a start of manual touching and/or actuation of the actuating element (2); and a control unit (12), which is electrically connected to the detection means (6, 8), for producing the electric excitation signal (S(t)) and applying the electric excitation signal (S(t)) to the electrodynamic or piezoelectric actuator (4) during or after detection of the touching and/or actuation, wherein a continuous amplitude spectrum (FFT(S(t))) is associated with the electric excitation signal (S(t)), and the first natural frequency (f1) and the second natural frequency (f2) each fall within a bandwidth range of the amplitude spectrum (FFT(S(t))) which surrounds a local minimum. The invention also relates to an associated input method.

IPC 8 full level

G06F 3/01 (2006.01); **B60K 35/10** (2024.01)

CPC (source: EP)

B60K 35/00 (2013.01); **B60K 35/10** (2024.01); **B60K 35/25** (2024.01); **G06F 3/016** (2013.01); **B60K 2360/1438** (2024.01)

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA

Designated validation state (EPC)

KH MA MD TN

DOCDB simple family (publication)

DE 102022108877 A1 20231012; EP 4309027 A1 20240124; WO 2023198688 A1 20231019

DOCDB simple family (application)

DE 102022108877 A 20220412; EP 2023059408 W 20230411; EP 23717935 A 20230411